A Generalised Probability Model for Straddling the Birth Interval

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The straddling birth interval is a closed birth interval, which straddles the survey point. Recently, a number of works have appeared which deal with the derivation of the straddling birth interval. The present paper is concerned with the derivation of a general probability model for the straddling birth interval taking into account different modes of termination of pregnancy. The model is applied to an observed situation.

A Probability Model for the Analysis of Mortality Data

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An attempt has been made to investigate the adequacy of the negative binomial distribution to describe the distributions of neonatal, infant and child deaths experienced by mothers belonging to various places of residence as well as of the age-group 49 years and above. Further, impact of sex on infant mortality has been examined. The data of India and Sri Lanka (World Fertility Survey) have been used for this study. It has been observed that the model (in both the complete and the zero-truncated forms) provides fairly good descriptions to these distributions and it does favour the distributions having relatively low average deaths.

A Stochastic Representation of the Human Life Cycle: An Exploration

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Starting from live birth to ultimate death, human life involves several phases in which vital events occur dependent on chance. Some of these phases have independently been represented by stochastic models.

An attempt is made in this paper to synthesise the different phases of the human life cycle and represent these in a single stochastic process. The number of states in which the process is at different points in time (taken as synchronous with age) increases up to a certain point in time and then decreases. Therefore, this stochastic process may be named as the expanding–contracting Markov process.

The transition probabilities in this model being age dependent (*i.e.* time dependent), the investigation of the changes is rather difficult. Hence, it is suggested to analyse phase by phase separately. As an illustration the analysis of the schooling phase is presented.